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11/05/1999

FAN JIAO

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29989

7590

04/20/2006

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EXAMINER

ZIA, SYED

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/435,015

Applicant(s)

JIAO, FAN

Examiner

Syed Zia

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-7,9,10,12,14,16-20 and 23-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-7,9,10,12,14,16-20 and 23-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

This office action is in response to arguments filed on February 03, 2006. Original application contained Claims 1-20. Applicant previously added Claim 21-26. Applicant previously amended Claims 1,5-7, 9-14,16, 21-22, and cancelled Claims 2-4, 8, 15, and 25-26. Applicant currently amended Claims 5-7, 9-10, 12, 14, 23-24, and cancelled Claims 1, 11, 13, and 21. The amendment filed have been entered and made of record. Presently pending claims are 5-7,9-10, 12, 14, 16-20, and 23-24.

### ***Information Disclosure Statement***

The information disclosure statement filed August 10, 2005 is acknowledged and considered accordingly.

### ***Response to Arguments***

Applicant's arguments with respect to rejected claims have been considered but are moot in view of the new ground(s) of rejection. The indicated allowability of claims 16-20 is withdrawn in view of the newly discovered reference(s) to Mead et al. Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 5,7, 9-10,12, 14, 16-18, 20, and 23-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Mead et al U.S. Patent No. 6,680,942 ('Mead hereinafter).

2. Regarding claim 5, Mead teaches and describes

a directory-enabled network element, comprising: a directory enabling element installed in and executed by the network element, wherein the network element is anyone of a packet router and a data switch capable of manipulating Packets at any of Open System Interconnection (OSI) Layer 2 and 3, wherein the directory enabling element is configured to query, access, and update directory information that is managed by a directory service of a network that includes the network element, wherein the directory service is any one of a Lightweight Directory Access Protocol (LDAP) directory and an X.500 directory (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23);

an application programming interface coupled to the directory enabling element and configured to receive directory services requests from application programs and provide the

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directory, services requests to the directory enabling element, wherein the application programs are hosted in the network element (Fig.11, col.21 line 64 to col.22 line 6); and

a locator service coupled to the directory enabling element and accessible using the application programming interface and configured to enable the application programs to locate servers that provide the directory services in the network (col.15 line 33 to line 67), and

a bind service in the directory enabling element and coupled to a security protocol and configured to bind an external application program to the security protocol (Fig.11, col.17 line 25 to line 47).

3. Regarding claim 7, Mead teaches and describes

a directory-enabled network element, comprising: a directory enabling element installed in and executed by the network element, wherein the network element is anyone of a packet router and a data switch capable of manipulating Packets at any of Open System Interconnection (OSI) Layer 2 and 3, wherein the directory enabling element is configured to query, access, and update directory information that is managed by a directory service of a network that includes the network element, wherein the directory service is any one of a Lightweight Directory Access Protocol (LDAP) directory and an X.500 directory (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23);

an application programming interface coupled to the directory enabling element and configured to receive directory services requests from application programs and provide the directory, services requests to the directory enabling element, wherein the application programs are hosted in the network element (Fig.11, col.21 line 64 to col.22 line 6);

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a locator service coupled to the directory enabling element and accessible using the application programming interface and configured to enable the application programs to locate servers that provide the directory services in the network (col.15 line 33 to line 67), and;

an event service coupled to the directory enabling element and configured to receive registration of an event and an associated responsive action from an application program, notify the application program when the event occurs, and execute the associated responsive action in response thereto (col.15 line 65 to col.16 line 10, and col.16 line 37 to col.17 line 25).

4. Regarding claim 12, Mead teaches and describes a directory-enabled packet router for a packet-switched network (Fig.1, 11-12), comprising: a directory enabling element installed in and executed by the packet router, wherein the packet router is capable of manipulating packets at any of Open System Interconnection (OSI) Layer 2 and 3, wherein the directory enabling element is configured to query, access, and update directory information that is managed by a directory service of the packet-switched network, wherein the directory service is any one of a Lightweight Directory Access Protocol (LDAP) directory and an X.500 director (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23).

a bind service in the directory enabling element and coupled to a security protocol and configured to bind an application program to the security protocol (Fig.11, col.17line 25 to line 47);

an event service coupled to the directory enabling element and accessible using the application programming interface and configured to receive registration of an event and an associated responsive action from an application program, notify the application program when

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the event occurs, and execute the associated responsive action in response thereto (col.15 line 65 to col.16 line 10, and col.16 line 37 to col.17 line 25).

5. Regarding claim 14, Mead teaches and describes a directory-enabled network data switch for a packet-switched network (Fig.1, 11-12), comprising: a directory enabling element installed in and executed by the data switch, wherein the data switch is capable of manipulating packets at any of Open System Interconnection (OSI) Layer 2 and 3, wherein the directory enabling element is configured to query, access, and update directory information that is managed by a directory service of the packet-switched network, wherein the directory service is any one of a Lightweight Directory Access Protocol (LDAP) directory and an X.500 directory (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23);

a bind service in the directory enabling element and coupled to a security protocol and configured to bind an application program to the security protocol (Fig.11, col.17 line 25 to line 47) ;

an event service coupled to the directory enabling element and accessible using the application programming interface and configured to receive registration of an event and an associated responsive action from an application program, notify the application program when the event occurs, and execute the associated responsive action in response thereto (col.15 line 65 to col.16 line 10, and col.16 line 37 to col.17 line 25).

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6. With respect to claim 16, Mead teaches a computer-readable medium carrying one or more sequences of instructions for using a directory-enabled network element, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors (Fig.1, 11-12) to perform the steps of:

creating and storing a directory enabling element installed in and executed by the network element, wherein the network element is any one of a packet router and a data switch capable of manipulating packets at any of Open System Interconnection (OSI) Layer 2 and 3, wherein the directory enabling element is configured to query, access, and update directory information that is managed by a directory service of the a network that includes the network element, wherein the directory service is any one of a Lightweight Directory Access Protocol (LDAP) directory and an X.500 directory (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23);

binding the application program to a security protocol (Fig.11, col.17 line 25 to line 47);

creating an event and an associated responsive action that are associated with the application program (Fig.11, col.21 line 64 to col.22 line 6);

in response to occurrence of the event, executing the responsive action, obtaining policy information from the directory service, and converting the policy information into one or more commands that are executable by the directory enabled network element (col.15 line 65 to col.16 line 10, and col.16 line 37 to col.17 line 25).

7. Regarding claim 23, Mead teaches and describes

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a system comprising a network element, enabled to automatically interface with directory services in a network, wherein the network element (Fig.1, 11-12) comprises: a directory enabling element installed and executed by the network element, wherein the network element is any one of a packet router and a data switch capable of manipulating packets at any of Open System Interconnection (OSI) Layer 2 and 3, wherein the directory enabling element is configured to query, access, and update directory information that is managed by directory services of a network that includes the network element, wherein the directory services include at least one of a Lightweight Directory Access Protocol (LDAP) directory and an X.500 directory (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23); and

a locator service coupled to the directory enabling element and configured to locate servers that provide the directory services in the network (col.15 line 33 to line 67).

wherein the network element obtains policy information from the directory services and updates the directory service (col.19 line 30 to col.20 line 48).

8. Claims 9-10, 17-18, 20, and 24 are rejected applied as above rejecting claims 5, 16, and 23. Furthermore, Mead teach and describe teach a directory-enabled network (Fig.1, 11-12) comprising

As per Claim 9, a directory-enabled network (Fig.1, 11-12) comprising:

a directory enabling element installed in and executed by the network element, and configured to query, access, and update directory information that is managed by a directory service of a network that includes the network element (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23);

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a locator service coupled to the directory enabling element and configured to locate servers that provide the directory services in the network (col.15 line 33 to line 67) ;

a group policy interface coupled to the directory enabling element and configured to receive and update the directory service with one or more definitions of directory services policies that apply to groups of network devices in the network (col.19 line 30 to col.20 line 48).

As per Claim 10, a directory-enabled network (Fig.1, 11-12) comprising:

a directory enabling element installed in and executed by the network element, and configured to query, access, and update directory information that is managed by a directory service of a network that includes the network element (Fig.1, 10-11, col.20 line 59 to col.21 line 60, and col.21 line 66 to col.13 line 23);

a bind service in the directory enabling element and coupled to a security protocol and configured to bind an external application program to the security protocol (Fig.11, col.17 line 25 to line 47).

an event service coupled to the directory enabling element and accessible using the application programming interface and configured to receive registration of an event and an associated responsive action from an application program, notify the application program when the event occurs, and execute the associated responsive action in response thereto (col.15 line 65 to col.16 line 10, and col.16 line 37 to col.17 line 25).

As per Claim 17, further performing the steps of: locating a nearest directory server and binding the application program to the nearest directory server that is located, and locating a

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nearest event server and binding the application program to the nearest event server that is located (col.2 line 58 to col.3 line 17, and col.6 line 17 to line 46).

As per Claim 18, furthermore, Meade teach translating the policy information into one or more values that are ready to apply to a router, whereby a virtual private network [network cloud, Fig. 1, and 11] is created between the router and another network device (col.2line 58 to col.3 line 17).

As per Claim 20, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the further (Fig.1, 11-12) steps of establishing an application programming interface coupled to the directory enabling element and configured to receive directory services requests from application programs and provide the directory services requests to the one or more processors (col.15 line 65 to col.16 line 10, and col.16 line 37 to col.17 line 25).

As per Claim 24, wherein the network element includes a protocol agent for interfacing with directory services (col.20 line 59 to col.21 line 19).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mead, U.S. Patent No. 6,680,942 ('Mead' hereinafter) in view of Day, II et al. U.S. Patent No. 5,968,116 ('Day, II' hereinafter).

110. Mead teach claim 6 rejected as above in rejecting claim 1.

Mead does not explicitly disclose a Unicode translation service configured to query, access, and update directory information that is encoded in a Unicode international character format.

Day, II teach a Unicode translation service configured to query, access, and update directory information that is encoded in a Unicode international character format (see col. 6, lines 13-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Day, II within the system of Mead because both references are directed to a directory-enabled network element, and because the implementation of the Unicode translation service of Day, II in Mead would allow for the data within the directory to be effectively transported through the network without corruption, further improving the reliability of the directory information that is encoded in a Unicode international character format.

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Claims 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead, U.S. Patent No. 6,680,942 ('Mead' hereinafter) in view of Nessett et al. U.S. Patent No. 5,968,176 ('Nessett' hereinafter).

Mead teach claim 19 rejected as above in rejecting claim 16. Mead does not explicitly disclose a set of internal data structures of a router and a dynamic IPSEC configuration.

Nessett teaches translating the policy information into one or more values that are ready to apply to a set of internal data structures of a router, by calling one or more internal NOS API functions, whereby a dynamic IPSEC configuration is created that connects the router and at least one other network device (see col. 10, lines 24-59; col. 13, lines 51-67 to col. 14, lines 19-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Nessett within the system of Mead to arrive at the invention as claimed because both references are analogous art, and the implementation of IPSEC configuration would not only increase the level of protection of the communication that occurs between the router and one other network device, but will also effectively ensure that the secure packet exchanges occur at the IP layer, thus further improving the security of the communication interface of the combined system.

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Zia whose telephone number is 571-272-3798. The examiner can normally be reached on 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sz

April 08, 2006